WHAT IS CLAIMED IS:

1. A system for testing protocols for a network having a plurality of network devices, comprising:

a simulation controller configured to transmit network configuration information;

one or more nodes, each node being configured to emulate at least one of the plurality of network devices and comprising:

a traffic generator configured to generate, in response to the configuration information, traffic during the protocol testing, and

an emulator configured to simulate transmission characteristics of the network; and

an analysis device configured to monitor the one or more nodes during the protocol testing and analyze the monitoring.

2. The system of claim 1 wherein the network is an ad hoc network and each of the plurality of network devices is an ad hoc network device.

3. The system of claim 1 wherein the simulation controller is further configured to:

transmit, prior to the protocol testing, a test scenario to each of the one or more nodes, the test scenario providing configuration information to the one or more nodes.

4. The system of claim 3 wherein, when transmitting a test scenario, the simulation controller is further configured to:

transmit information regarding at least one of a terrain, trajectory set, and a traffic control model to the one or more nodes.

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5. The system of claim 4 wherein the simulation controller is further configured to:

transfer, prior to transmitting the information, an indication of the terrain, trajectory set, and traffic control model to the analysis device.

6. The system of claim 1 wherein, when transmitting, the simulation controller is configured to:

transfer, prior to the protocol testing, at least one script to each of the one or more nodes, the at least one script controlling functioning of each of the one or more nodes.

7. The system of claim 1 wherein, when transmitting, the simulation controller is configured to:

broadcast at least one characteristic matrix to the one or more nodes, the at least one characteristic matrix representing changing network transmission ~~characteristics.~~

8. The system of claim 1 wherein, when transmitting, the simulation controller is configured to:

transmit stimuli to each of the one or more nodes, the stimuli causing the one or more nodes to cease operation, malfunction, begin erroneous transmissions, or start or stop collecting testing information.

9. The system of claim 1 wherein each of the one or more nodes is further configured to:

receive, prior to emulating, software for the protocols and application programs associated with the at least one network device that the respective node is emulating.

10. The system of claim 1 wherein at least one of the one or more nodes is configured to:

emulate two or more of the plurality of network devices.

11. The system of claim 1 wherein the one or more nodes are further configured to:

collect, during the protocol testing, testing information, and

transfer the testing information to the analysis device.

12. The system of claim 1 further comprising:

a testbed network configured to transfer information between the simulation controller, the one or more nodes, and the analysis device.

13. A system for testing protocols for a network having a plurality of network devices, the system comprising:

means for emulating at least one of the plurality of network devices, the means for emulating comprising:

means for generating traffic during the protocol testing in response to configuration information, and

means for simulating transmission characteristics of the network;

means for monitoring the means for emulating during the protocol testing; and

means for analyzing an output of the means for monitoring.

14. A method for testing protocols for a network having a plurality of communication devices, the method comprising:

selecting protocol configuration settings to be tested;

establishing the protocol configuration settings in each of one or more nodes, each node being configured to emulate at least one of the plurality of communication devices;

simulating operation of the network;

monitoring the operation; and

analyzing the monitoring to determine protocol suitability.

15. The method of claim 14 wherein the network is an ad hoc network and each of the plurality of network devices is an ad hoc networking device.

16. The method of claim 14 further comprising:

transmitting, prior to simulating, a test scenario to each of the one or more nodes, the test scenario including at least one of terrain, trajectory set, and traffic control model information.

17. The method of claim 14 further comprising:

receiving, prior to simulating, at least one script at each of the one or more nodes, the at least one script controlling functioning of the one or more nodes.

18. The method of claim 14 further comprising:

receiving, during the simulating, stimuli at the one or more nodes, the stimuli causing the one or more nodes to perform at least one of cease operation, malfunction, begin erroneous transmissions, and start or stop collecting testing information.

19. The method of claim 14 further comprising:

broadcasting, during the simulating, at least one characteristic matrix to the one or more nodes, the at least one characteristic matrix representing changing network transmission characteristics.

20. The method of claim 14 wherein the monitoring includes:

collecting, via each of the one or more nodes, simulation information.

21. The method of claim 14 wherein the simulating includes:

simulating transmission of information between the plurality of communication devices according to the protocol configuration settings.

22. The method of claim 21 wherein the monitoring includes:

tracing the transmission.

23. The method of claim 14 wherein the simulating includes:

simulating operation of the network in one of real time and faster than real time.

24. A computer-readable medium containing instructions for controlling at least one processor to perform a method that tests protocols for a network having a ~~plurality of communication devices, the method comprising:~~

establishing protocol configuration settings in each of a plurality of nodes, each of the nodes being configured to emulate at least one of the plurality of communication devices;

simulating operation of the network;

monitoring the operation; and

analyzing the monitoring to determine protocol suitability.

25. The computer-readable medium of claim 24 wherein the network is an ad hoc network and each of the plurality of communication devices is an ad hoc networking device.

26. The computer-readable medium of claim 24 further comprising:

receiving, prior to simulating, a test scenario at each of the nodes, the test scenario including terrain, trajectory set, and traffic control model information.

27. The computer-readable medium of claim 24 further comprising:

receiving, prior to simulating, at least one script at each of the nodes, the at least one script controlling functioning of the nodes.

28. The computer-readable medium of claim 24 further comprising:

receiving, during the simulating, stimuli at the nodes, the stimuli causing the nodes to perform at least one of cease operation, malfunction, begin erroneous transmissions, and start or stop collecting information.

29. The computer-readable medium of claim 24 further comprising:

broadcasting, during the simulating, at least one characteristic matrix to the nodes, the at least one characteristic matrix representing changing network transmission characteristics.

30. The computer-readable medium of claim 24 wherein the monitoring includes:

collecting, via each of the nodes, simulation information.

31. The computer-readable medium of claim 24 wherein the simulating includes:

simulating transmission of information between the plurality of communication devices according to the protocol configuration settings.

32. The computer-readable medium of claim 31 wherein the monitoring includes:

~~tracing the transmission.~~

33. The computer-readable medium of claim 34 wherein the simulating includes:

simulating operation of the network in one of real time and faster than real time.

34. A system for testing protocols for an ad hoc network, the ad hoc network having a plurality of ad hoc devices, the system comprising:

a plurality of nodes, each node being configured to emulate at least one of the plurality of ad hoc devices, generate and receive traffic, and simulate transmission characteristics; and

an analysis device configured to monitor the plurality of nodes, collect test information, and analyze the test information.

35. The system of claim 34 wherein the plurality of nodes are further configured to:

collect performance information during the testing, and

transmit the performance information to the analysis device.

36. The system of claim 35 wherein, when analyzing, the analysis device is configured to:

analyze the test information and the performance information to determine protocol suitability.

37. The system of claim 34 wherein each of the plurality of nodes is further configured to:

receive at least one characteristic matrix, the at least one characteristic matrix changing the simulated transmission characteristics.

38. The system of claim 34 wherein at least one of the plurality of nodes is further configured to:

receive stimulus during the testing, the stimulus changing operation of the at least one node.